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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,467	11/28/2001	Matthew P.J. Baker	GB 000168	2280

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EXAMINER

PHAM, TUAN

ART UNIT PAPER NUMBER

2643

DATE MAILED: 07/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/995,467

Applicant(s)

BAKER ET AL.

Examiner

TUAN A. PHAM

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. **Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alan Sicher (WO 93/17531) in view of Freeburg (U.S. Patent No.: 5,095,535).**

**Regarding claims 1, 3, and 13**, Alan Sicher teaches a radio communication system and transmitter and method having a communication channel comprising a transmitter having a plurality of antennas and a receiver having at least one antenna (see figure 3, plurality antenna 126'):

Data categorization means for determining and assigning a data quality category to a set of data for transmission (see figure 4b, high priority, medium priority, low priority, page 14, ln.6-23),

Mapping means responsive to the data channel characterization means and the data categorization means for determining a mapping to apply the set of data to the transmitter's plurality of antennas such that the set of data is transmitted over a channels in which the determined data quality of the set of data corresponds to the at least one transmission property of the channels, thereby determining over which channels the set of data will be transmitted (see figure 4b, high priority, medium priority, low priority, page 14, ln.6-23).

It should be noticed that Alan Sicher fails to teach path characterization means for determining at least one transmission property of each path of the plurality of paths. However, Freeburg teaches such features (see col.7, ln.13-43, col.9, ln.1-7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Freeburg into view of Alan Sicher in order to provide call priority as suggested by Alan Sicher at page 2, lines 29-35.

**Regarding claim 2**, Alan Sicher further teaches the receiver comprises means for performing channel estimation and means for signaling details of the output of the channel estimation to the path characterization means (see figure 2, control channel generator 102, page 5, ln.14-35).

**Regarding claim 4**, Alan Sicher further teaches a transmitter comprises the data for transmission may be provided from a plurality of sources and in that the categorization means is adapted to assign a category depending on the source of the data (see figure 4b, high priority, medium priority, low priority, page 14, ln.6-23).

**Regarding claim 5**, Alan Sicker further teaches a transmitter comprises the categorization means is adapted to assign different categories to respective segments of data from an application depending on at least one of their relative importance, required quality of service (see page 2, ln.1).

**Regarding claim 6**, Freeburg further teaches a transmitter comprises the path characterization means is adapted to determine at least one of a delay, a signal-to-noise ratio, and a required transmission power for a given signal-to-noise ratio or error rate for each path (see col.6, ln.60-65).

**Regarding claim 7**, Alan Sicher further teaches a transmitter comprises parameter selection means are provided for setting at least one transmission parameter relating to the data depending on at least one of the channel assigned for transmission of the data and the category assigned to the data (see figure 4b, high priority, medium priority, low priority, page 14, ln.6-23).

**Regarding claim 8**, Freeburg further teaches a transmitter comprises a transmission parameter specifies the type of error control coding added to the data (see col.6, ln.60-65).

**Regarding claim 9**, Alan Sicher further teaches a transmitter comprises a transmission parameter specifies the modulation scheme to be used for transmission of the data (see page 8, ln.25-34).

**Regarding claim 10**, Alan Sicker further teaches a transmitter comprises signal-to-noise ratio to be achieved for at least one signal path (see page 14, ln.25-30).

**Regarding claim 11**, Freeburg further teaches a transmitter comprises a plurality of spatially separated sites, each site comprising at least one antenna (see figure 1a, plurality antenna sectors A-F, col.3, ln.1-20).

**Regarding claim 12**, Freeburg further teaches a transmitter comprises means are adapted to determine properties of the paths at least partly from measurements made by the receiver and signaled to the transmitter (see col.7, ln.13-42).

**Regarding claim 14**, Alan Sicher further teaches a transmitter comprises transmitting data requiring a higher quality of service over a better sub-channel than data requiring a lower quality of service (see page 14, ln.6-24).

**Conclusion**

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In order to expedite the prosecution of this application, the applicants are also requested to consider the following references. Although Acosta (U.S. Patent No. 6,496,520), Lynk, Jr. et al. (U.S. Patent No. Re. 32,789), and Sicher (US Patent No.: 5,570,411) are not applied into this Office Action; they are also called to Applicants attention. They may be used in future Office Action(s).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is

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(571) 272-8097. The examiner can normally be reached on Monday through Friday,  
8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's  
supervisor, Mr. Curtis Kuntz can be reached on (571) 272-8097 and

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you have question on access to the Private PAIR system, contact the Electronic  
Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2643  
July 4, 2005  
Examiner

Tuan Pham

  
CURTIS KUNTZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600